Nevco

Indoor Accessory Driver

IAD

Installation Manual

Retain this manual in your permanent file.

Rev: 000 (1/18/2012) **135-0220**

Installation Instructions

Installation consists of three steps: Unpacking the equipment, Indoor Accessory Driver (IAD) mounting and electrical wiring. Be sure to read and understand all of the instructions before installing the equipment. Consult the "installer's troubleshooting guide" following this section for verifications each step has been installed and is working correctly.

1. Unpacking the Equipment

- ❑ Inspect the shipping container for damage. If any damage can be seen, contact the carrier immediately.
- ❑ Carefully remove all equipment from its packing carton.

2. IAD Mounting

- ❑ Refer to installation prints for detailed power requirements.
- ❑ The IAD is equipped with two mounting brackets. Always use good mechanical practices when mounting IAD.
- ❑ Install IAD and power supply somewhere protected to prevent damage to the equipment.
- ❑ For conduit connections directly to IAD remove knock-out from desired hole and install appropriate fittings.
- ❑ For wire connections to IAD remove knock-out from desired hole, install one of the included black plastic grommets to protect wires from damage, run the wires inside the IAD and loop the wires through the pull-tie strain relief before making their connections to the IAD.
- ❑ Once all the wires are connected to the inside of the IAD pull on the free end of the plastic pull-tie until all the wires are secured. If changes are required the pull-tie can carefully be cut and replaced.

3. Electrical Connections

Power Service

- ❑ Consult the installation print for power requirements for your scoreboard model. Provide for a 40% safety factor to guard against tripping of the circuit breaker under low line conditions.
- ❑ Be sure to include any lighted signs, and message centers when sizing the supply wiring necessary to support the circuit load.
- ❑ The person performing the installation should be familiar with National and local electric codes.
- ❑ A standard IEC US grounded power cord is shipped with the board for attaching power.
- ❑ A standard IEC to Euro Plug with Ground power cord (009-0257) is available from Nevco

Signal Connections

- ❑ Refer to IAD Signal Input/Output Configuration print
- ❑ Connect coax inputs to the BNC marked "Input".
- ❑ The BNC marked "Output" can be used to drive other scoreboards/accessories sharing the same display data.
- ❑ By adding a "T" connector at the BNC Output, two accessories can be connected at once with up to 1000 feet of coax each.

Accessory Connections

- ❑ Refer to IAD Accessory Output Configuration print

2-Wire Coax Cable (RG58/U)

All 2-WIRE cable ordered from Nevco is direct burial type. It has a minimum dielectric strength of 300V, and conforms to UL standard 1365.

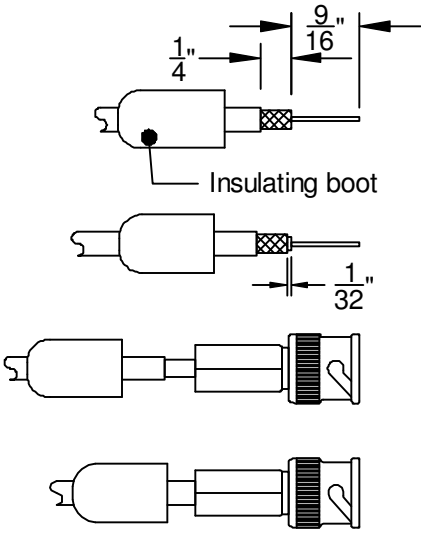
If the wiring is buried above the freeze line, bury the cable with sand to provide drainage and prevent damage from shifting soil.

Installing Cable Connectors

Bulk 2-WIRE cable that does not have connectors attached.

To install connectors on each end of the cable:

- Slide the insulating boot onto the cable and trim the cable as shown.
- Twist the outer braid in a **clockwise** direction so that at least 1/32 in. of the inner dielectric is bared and the braid is left flat. Be sure no strands of the outer braid are touching the center conductor.
- Insert the center conductor into the back of the connector, feeding it into the guide hole.
- Push the cable as far as possible into the connector.
- Screw the connector onto the cable in a clockwise direction until the connector stops turning.
- Slip the insulating boot over the back of the connector.

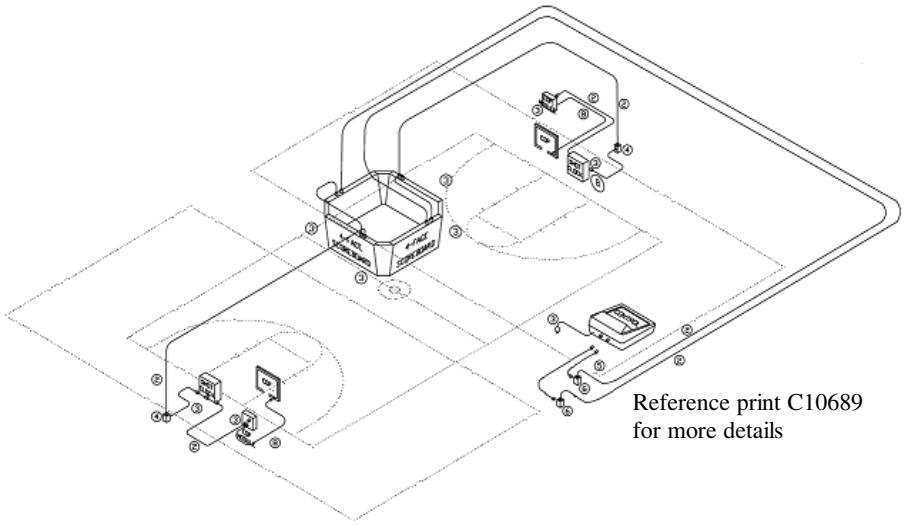


4. Scoreboard Systems

To install a system of scoreboard displays, controls and accessories follow these guidelines. Check the website Nevco.com or contact your local sales rep to obtain other system drawings.

Daisy Chaining

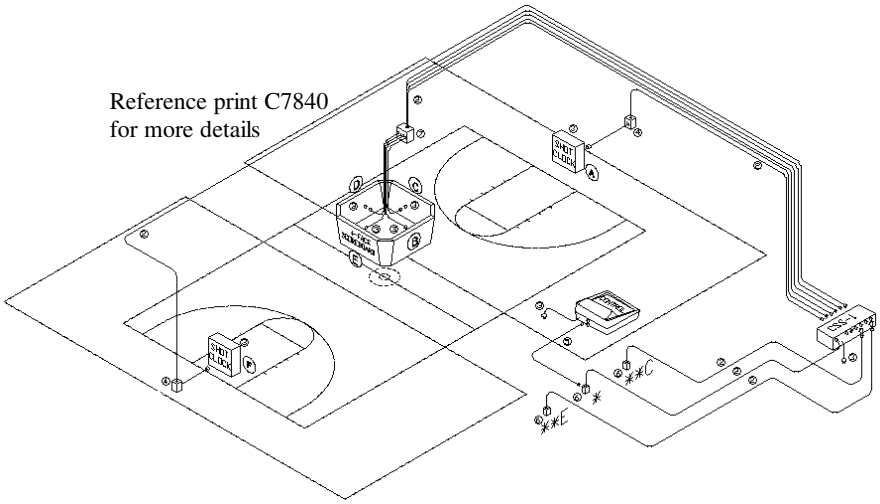
When all or "groups" of scoreboards in the facility are to operate together, installation time and costs can be saved by daisy chaining the coax cable from scoreboard to scoreboard. The diagram to the right shows this operation.



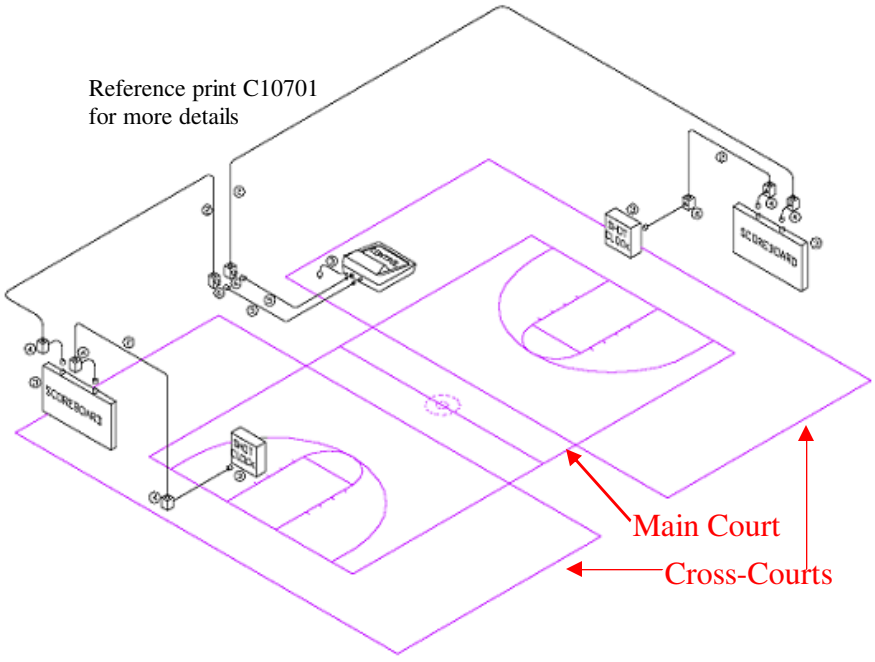
Reference print C10689
for more details

Independent Operation

When the scoreboards are to be operated together, but at other times separated and operated independently, alternate control points or cable selection switch (CSS) units must be used. The diagram to the right shows this operation.



Reference print C7840
for more details



Reference print C10701
for more details

Plug a control into both jacks for Main Court "All-on" operation (shown) or plug two controls into each jack for independent cross-court operation (not shown).

Mixed Operation

When independent operation is required, daisy chaining can still be used to save cost on installation. The diagram to the left shows this operation.

Wireless Operation

Wireless systems provide the maximum flexibility by allowing the operator the ability to program groups of receivers. A single receiver can drive multiple displays. See wireless device manual for more information.

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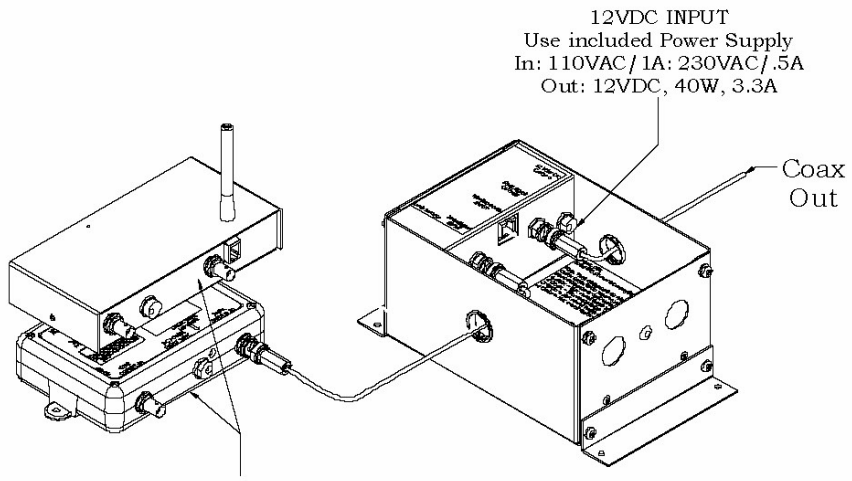
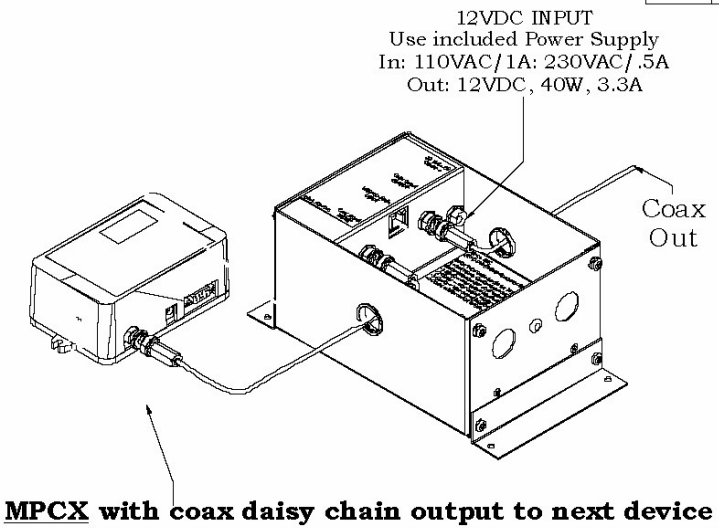
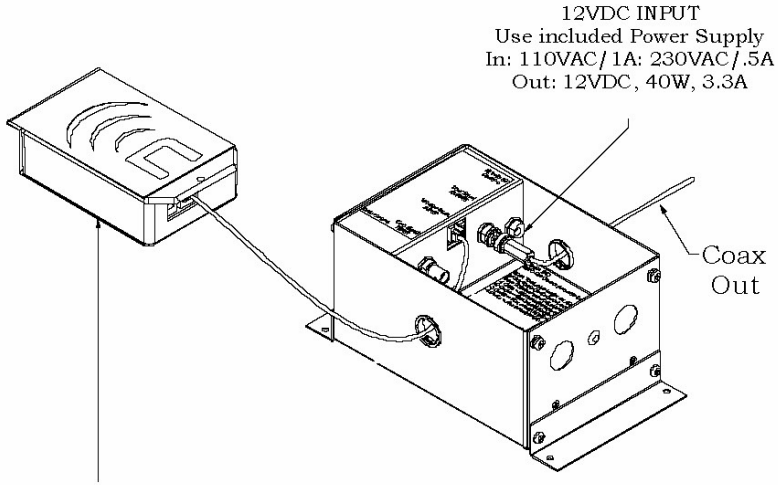


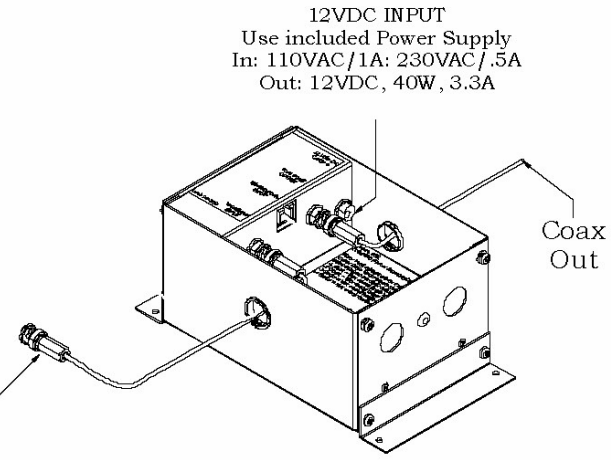
MPCW-6 (1st & 2nd Gen) with coax daisy chain output to next device
Option: Series 7 Receiver can be added to this config



MPCX with coax daisy chain output to next device
option: Series 7 Receiver can be added to this config



Series 7 Receiver with coax daisy chain output to next device
Option: Coax Input



Coax input with coax daisy chain output to next device

Please Note:
-Systems w/ multiple signal inputs will use whichever signal is present 1st. The 1st signal must be turned off for the equipment to start using 2nd signal.
-To maintain reliable wireless connection there must be clear line of sight between the transmitter and all receivers in the system.

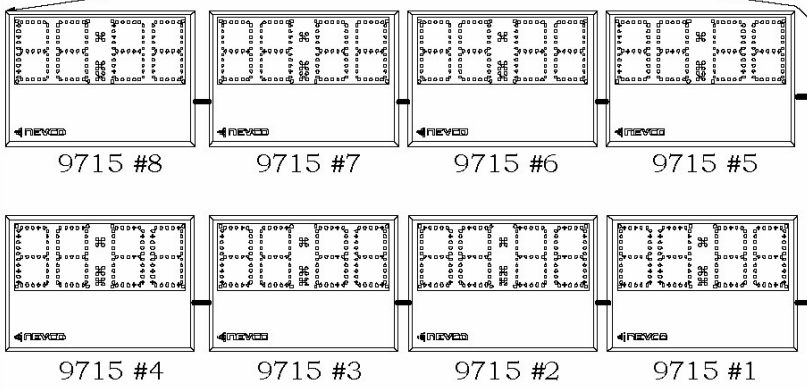
IAD
Indoor Accessory Driver
Signal Input/Output
Configurations

Nevco, Inc.
Greenville, Illinois 62246

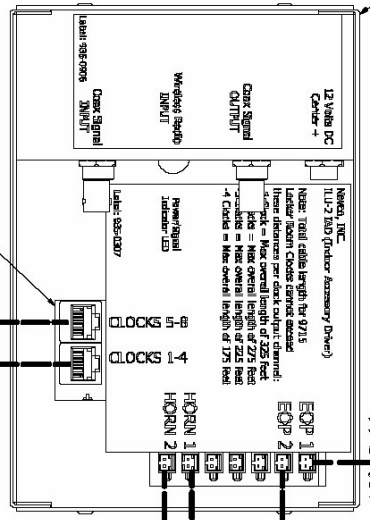
Drawing No. 275-0196

Drawn MMK | Date 1/18/12 | Sheet 1 of 2

Overall length of 9715 chain
(from the IAD to the last clock)
cannot exceed these lengths:
-1 Clock Max. chain length 325 Feet
-2 Clocks Max. chain length 275 Feet
-3 Clocks Max. chain length 225 Feet
-4 Clocks Max. chain length 175 Feet



Nevco IAD

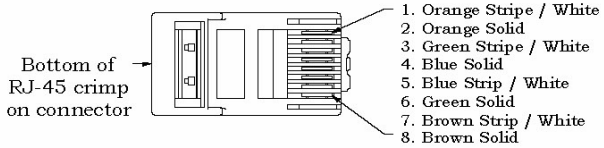


25ft Cable
10ft Cable
EOP #1
EOP #2
10ft Cable
25ft Cable

Use standard 8 conductor, 24 gauge Straight-Thru "Patch"
style Ethernet cables to connect 9715 clocks together.
DO NOT USE CROSSOVER CABLES
DO NOT CONNECT IAD or 9715 TO COMPUTER NETWORK
Ethernet (patch cables) extensions available.
-25ft Nevco Part #603-2689
-50ft Nevco Part #603-4970
-100ft Nevco Part #603-4971
-150ft Nevco Part #603-4972
-200ft Nevco Part #603-4973

Horn #1
Horn #2

Combine 10ft & 25ft cables
to connect IAD to EOP.
14 gauge extensions available.
-25 foot Nevco Part #603-2372
-50 foot Nevco Part #603-3032
-100 foot Nevco Part #603-3033
-150 foot Nevco Part #603-3034
-200 foot Nevco Part #603-3035



Patch Cable pinout (TIA T568B Standard)
Both ends of Ethernet cable should match each other

The Nevco Indoor Accessory Driver can be used to drive a combination of Nevco Accessories in the following configurations:
-A maximum of 1 pair of 42" or 48" EOP LED kits
-A maximum of 8 locker room clocks, 4 per channel
-A maximum of 4 Locker room clocks and a set of 42" or 48" EOP LED kits
-A maximum of 1 pair of Full Matrix Horns

IAD Indoor Accessory Driver Accessory Output Configurations		Nevco, Inc. Greenville, Illinois 62246
		Drawing No. 275-0196
Drawn MMK	Date 1/15/12	Sheet 2 of 2

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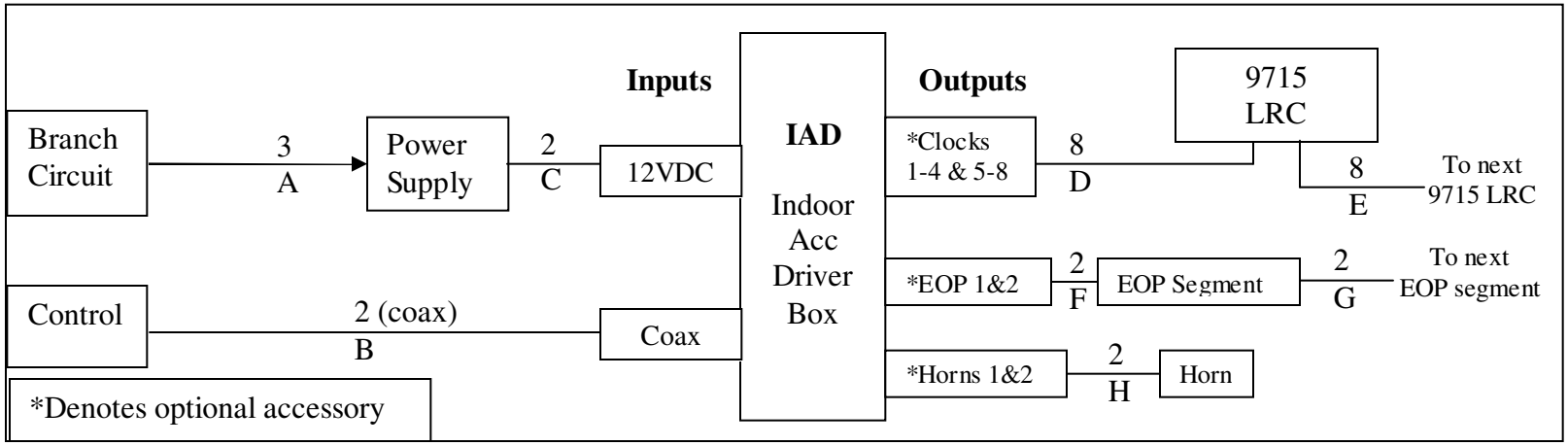
WIRED TROUBLE-SHOOTING GUIDE

The figure to the right labels the possible connections to the IAD. The chart below lists the problem that can be identified should any connection be faulty.

NOTE: The number that appears above/next to a letter refers to the number of wires or conductors in the cable.

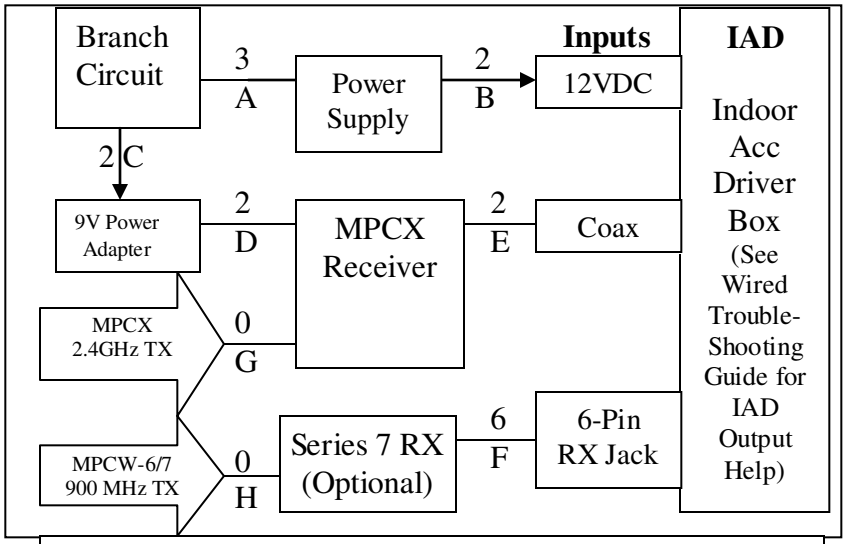


Situation	Symptom	Connection	Solution
The IAD fails to function properly:	The IAD power & signal indicator LED does not light inside of the IAD enclosure.	A	Check branch circuit breaker and power cord connections to power supply
		Power Supply	Verify power supply is "Desktop Style" 12 Volt, 40 watt, 3.3A power supply. Verify LED on top of the power supply is on.
		C	Check 12V connection inside IAD enclosure
	The IAD power & signal indicator LED does NOT change from solid to flashing when a coax signal is connected to the coax input inside the IAD box	B	Check Coax connections. Plug control directly into the IAD to eliminate installed coax cable. If that works, the cable or terminations are bad. Try the 301 Model code, see control users manual on testing.
Problem with EOP End of Period Indicators	EOP indicator turns on when horn button is pressed	F	Plug from EOP segments is in the wrong socket inside IAD enclosure. Only the top two plugs are intended for End of Period Indicators.
		Control	MPCW-7 controls have an option menu to change when EOPs turn on. Verify EOP operation setting.
Problem with Full-Matrix Horns	Horns do not sound when time runs down to 00:00 or when the horn button is pressed	H	Check 2-pin connection to the IAD. Verify the horn(s) are plugged into the two bottom sockets (**Horn 1** and **Horn 2**) inside the IAD enclosure.
		Control	MPCW-7 controls have an option menu to change Horn tone and volume. If the horn tone is set to blank the horn is disabled. Verify horn tone setting.
Problem with 9715 Locker Room Clock	The IAD is on and a good coax signal is present but the 9715 clocks(s) are not turning on.	D	Connect the 9715 directly to the IAD using the included 25 foot straight patch cable. Do not use a crossover style Ethernet cable. Also verify that the cable coming from the IAD is plugged into the 9715 clocks Input and not the signal Output.
	A daisy chained 9715 locker clock isn't working after the 1st clock in the chain.	E	Maximum of 4 clocks per channel from the IAD.
			Plug clock directly into IAD and verify functionality of clock. If clock turns on directly connected to IAD check cable between both clocks. Do not use crossover Ethernet cable.
	Clocks are dim or change brightness during operation	D/E	Total length of wire cannot exceed 175 feet per clock channel when four clocks are daisy chained. If using non-Nevco purchased Ethernet cable verify that it is 8 conductor, 24 gauge. Also verify the proper crimp on connector is being used. There are different connectors depending if the cable is solid or stranded.

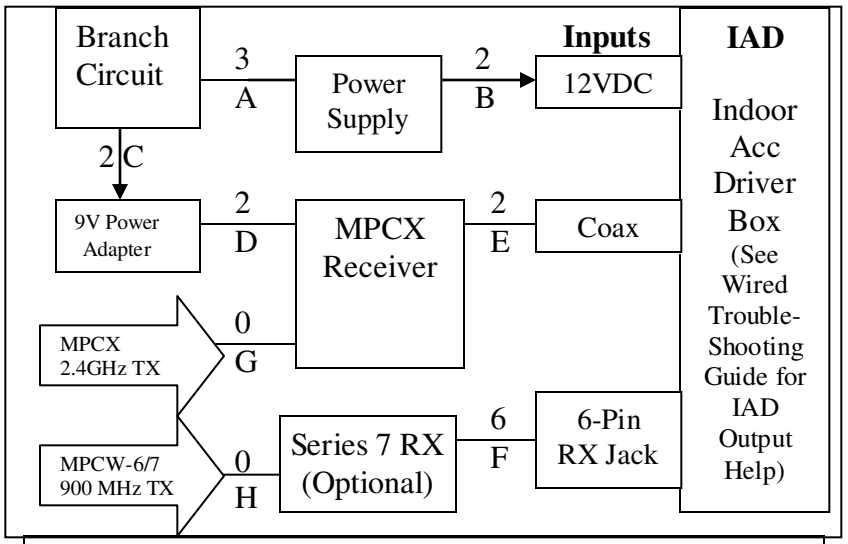
Wireless Trouble-shooting Guide

The figure to the right labels connections useful to troubleshooting. The chart below lists the problem that can be identified should any connection be faulty. Check the control and service manual for more detailed information.

NOTE: The number that appears above/next to a letter refers to the number of wires or conductors in the cable.



MPCX Wireless RX w/ optional Series 7 Wireless RX



MPCW-6 Wireless RX w/ optional Series 7 Wireless RX

Situation	Symptom	Connection	Solution
The IAD fails to function properly when used with Wireless Receivers	LED on wireless receiver does not turn on at all	A, B, C, D	Check branch circuit breaker and power connections.
		9V Power Adapter	Verify that LED on wall mounted power supply is ON and plugged into MPC6/MPCX receiver.
		F	If using Series-7 power for the receiver is supplied by the IAD. Check cable and verify power IAD power is on. (See Wired Trouble-shooting for further information on IAD power supply)
	LED on MPC6/MPCX receiver is flashing indicating good wireless signal but IAD signal LED is staying solid and not flashing indicating that it is getting a good signal.	E	Check Coax connections and cable.
			Use supplied 25 foot cable and plug control directly into the top of the board. Try the 301 Model code, see MPC control users manual for further information on testing.
	Scoreboard/IAD has power and wireless control is turned on but scoreboard digits / IAD accessories are not turning on correctly.	G, H	Receiver should be in clear line of sight of control
			See MPC wireless control manual to verify the receiver has been properly linked to the control
	LED on MPCX receiver doesn't flash when keys are pressed on control	MPCX RX	See MPCX wireless control manual to verify the receiver has been properly linked to the control

MAXIMIZE YOUR IMPACT™

NEVCO GUARANTEE

To view or receive the most recent copy of the Guarantee, please visit our website, www.nevco.com or call 1-618-664-0360

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NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

This class A digital apparatus meets all requirements of the Canadian Interference- Causing Equipment Regulations.

Cet appareil numerique de la classe A repecte toutes les exigences du Reglement sure le materiel brouller du Canada.